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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/476,485A

DATE: 09/19/2002

TIME: 16:25:24

Input Set : A:\108236-119.ST25.txt

Output Set: N:\CRF4\09192002\I476485A.raw

4 <110> APPLICANT: Colucci, M. Gabriella
 5 Chrispeels, Maarten J.
 6 Moore, Jeffrey G.
 8 <120> TITLE OF INVENTION: Progenitor Cell Preservation Factors and Methods for
 9 and Products of Their Use
 11 <130> FILE REFERENCE: 108236.119
 13 <140> CURRENT APPLICATION NUMBER: US 09/476,485A
 C--> 14 <141> CURRENT FILING DATE: 2000-12-22
 16 <150> PRIOR APPLICATION NUMBER: US 08/881,189
 17 <151> PRIOR FILING DATE: 1997-06-24
 19 <160> NUMBER OF SEQ ID NOS: 57
 21 <170> SOFTWARE: PatentIn version 3.0
 23 <210> SEQ ID NO: 1
 24 <211> LENGTH: 939
 25 <212> TYPE: DNA
 26 <213> ORGANISM: Artificial Sequence
 28 <220> FEATURE:
 29 <223> OTHER INFORMATION: D1-FRIL.
 32 <400> SEQUENCE: 1
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 35 caaggtcatg ccacttctac aaacaatgtc ttacaagtca ccaagttaga cagtgcagga 120
 37 aaccctgtga gttctagtgc gggaaagagt ttatattctg caccattgcg cctttggaa 180
 39 gactctgcgg tattgacaag ctttgacacc attatcaact ttgaaatctc aacacccat 240
 41 acttctcgta tagtgatgg cttggccttc ttcattgcac cacctgactc tgcattcagt 300
 43 ttcattgttgc gttttcttgg actctttccc aacgcaaaca ctctcaacaa ctcttccacc 360
 45 tctgaaaacc aaaccaccac taaggctgca tcaagcaacg ttgttgcgt tgaatttgac 420
 47 acctatctta atcccgattt tggtgatcca aactacatac acatcgaaat tgacgtcaac 480
 49 tctatttagat ccaaggtaac tgctaagtgg gactggcaaa atggggaaat agccactgca 540
 51 cacattagct ataactctgt ctctaaaaga ctatctgtt ctatctgttata tgctggaggt 600
 53 aacacccatgca ctctctccta tgatattggat ttacatatacg tgcttcctga atgggtcaga 660
 55 gttagggttat ctgcttcaac tggacaagat aaagaaagaa ataccgttca ctcatggct 720
 57 ttcacttcaa gcttgcggc caatgtggcg aagaaggaga atgaaaacaa gtatattaca 780
 59 agaggcggttc tgtgatgata tatgtgtatc aatgatttgc tatgttataa gcatgtaatg 840
 61 tgcgatgagt caataatcac aagtacagtg tagtacttgt atgttgcgtt tgtaagagtc 900
 63 agtttgcttt taataataac aagtgcagtt agtacttgt 939
 67 <210> SEQ ID NO: 2
 68 <211> LENGTH: 264
 69 <212> TYPE: PRT
 70 <213> ORGANISM: Artificial Sequence
 72 <220> FEATURE:
 73 <223> OTHER INFORMATION: D1-FRIL.
 76 <400> SEQUENCE: 2
 78 Ala Gly Ser Leu Ser Phe Ser Phe Thr Lys Phe Asp Pro Asn Gln Glu

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Input Set : A:\108236-119.ST25.txt
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79	1	5	10	15												
81	Asp	Leu	Ile	Phe	Gln	Gly	His	Ala	Thr	Ser	Thr	Asn	Asn	Val	Leu	Gln
82				20					25					30		
84	Val	Thr	Lys	Leu	Asp	Ser	Ala	Gly	Asn	Pro	Val	Ser	Ser	Ser	Ala	Gly
85					35				40				45			
87	Arg	Val	Leu	Tyr	Ser	Ala	Pro	Leu	Arg	Leu	Trp	Glu	Asp	Ser	Ala	Val
88						50			55			60				
90	Leu	Thr	Ser	Phe	Asp	Thr	Ile	Ile	Asn	Phe	Glu	Ile	Ser	Thr	Pro	Tyr
91	65					70				75			80			
93	Thr	Ser	Arg	Ile	Ala	Asp	Gly	Leu	Ala	Phe	Phe	Ile	Ala	Pro	Pro	Asp
94						85				90			95			
96	Ser	Val	Ile	Ser	Tyr	His	Gly	Gly	Phe	Leu	Gly	Leu	Phe	Pro	Asn	Ala
97						100			105			110				
99	Asn	Thr	Leu	Asn	Asn	Ser	Ser	Thr	Ser	Glu	Asn	Gln	Thr	Thr	Thr	Lys
100						115			120			125				
102	Ala	Ala	Ser	Ser	Asn	Val	Val	Ala	Val	Glu	Phe	Asp	Thr	Tyr	Leu	Asn
103						130			135			140				
105	Pro	Asp	Tyr	Gly	Asp	Pro	Asn	Tyr	Ile	His	Ile	Gly	Ile	Asp	Val	Asn
106	145					150				155			160			
108	Ser	Ile	Arg	Ser	Lys	Val	Thr	Ala	Lys	Trp	Asp	Trp	Gln	Asn	Gly	Lys
109						165				170			175			
111	Ile	Ala	Thr	Ala	His	Ile	Ser	Tyr	Asn	Ser	Val	Ser	Lys	Arg	Leu	Ser
112						180			185			190				
114	Val	Thr	Ser	Tyr	Tyr	Ala	Gly	Ser	Lys	Pro	Ala	Thr	Leu	Ser	Tyr	Asp
115						195			200			205				
117	Ile	Glu	Leu	His	Thr	Val	Leu	Pro	Glu	Trp	Val	Arg	Val	Gly	Leu	Ser
118						210			215			220				
120	Ala	Ser	Thr	Gly	Gln	Asp	Lys	Glu	Arg	Asn	Thr	Val	His	Ser	Trp	Ser
121	225					230				235			240			
123	Phe	Thr	Ser	Ser	Leu	Trp	Thr	Asn	Val	Ala	Lys	Lys	Glu	Asn	Glu	Asn
124						245				250			255			
126	Lys	Tyr	Ile	Thr	Arg	Gly	Val	Leu								
127					260											
130	<210>	SEQ ID NO:	3													
131	<211>	LENGTH:	1005													
132	<212>	TYPE:	DNA													
133	<213>	ORGANISM:	Artificial Sequence													
135	<220>	FEATURE:														
136	<223>	OTHER INFORMATION:	Nucleic acid sequence of the naturally-occurring D1-FRIL protein.													
139	<400>	SEQUENCE:	3													
140	atggcttcct	ccaaacttact	cacccttagcc	ctcttccttg	tgcttctcac	ccacgcaaac							60			
142	tca	ggccgcac	agt	cattgtc	at	tttttttc	acc	aa	gtt	ttt	ttt	ttt			120	
144	at	ttt	ccaa	gt	cat	ccac	tt	tc	ac	aa	tt	tt	tt		180	
146	gc	agg	aa	acc	ct	gt	tg	ag	tt	tt	tt	tt	tt		240	
148	tt	gg	aa	gg	act	ct	g	tt	tt	tt	tt	tt	tt		300	
150	cc	tt	tt	ac	tt	tc	gt	tt	tt	tt	tt	tt	tt		360	
152	at	tc	tt	tt	tt	tt	tt	tt	tt	tt	tt	tt	tt		420	
154	tt	cc	ac	ct	tc	aa	aa	cc	tt	tt	tt	tt	tt		480	
156	tt	tt	tt	tt	tt	tt	tt	tt	tt	tt	tt	tt	tt		540	

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158 gtcaactcta ttagatccaa ggtaactgct aagtggact ggcaaaatgg gaaaatagcc 600
 160 actgcacacaca ttagctataa ctctgtctct aaaagactat ctgttactag ttattatgct 660
 162 gggagtaaac ctgcgactct ctcctatgat attgagttac atacagtgct tcctgaatgg 720
 164 gtcagagtag ggttatctgc ttcaactgga caagataaaag aaagaaatac cgttcactca 780
 166 tggctttca cttcaagctt gtggaccaat gtggcgaaga aggagaatga aaacaagtat 840
 168 attacaagag gcgttctgtg atgatataatg tttatcaatg attttctatg ttataagcat 900
 170 gtaatgtgcg atgagtcaat aatcacaagt acagtgtatg acttgtatgt tgtttgtgt 960
 172 agagtcagtt tgcttttaat aataacaagt gcagtttagta cttgt 1005
 175 <210> SEQ ID NO: 4
 176 <211> LENGTH: 22
 177 <212> TYPE: PRT
 178 <213> ORGANISM: Artificial Sequence
 180 <220> FEATURE:
 181 <223> OTHER INFORMATION: Signal sequence from the FRIL family isolated from
 182 Dolichos lab lab
 185 <400> SEQUENCE: 4
 187 Met Ala Ser Ser Asn Leu Leu Thr Leu Ala Leu Phe Leu Val Leu Leu
 188 1 5 10 15
 190 Thr His Ala Asn Ser Ala
 191 20
 194 <210> SEQ ID NO: 5
 195 <211> LENGTH: 914
 196 <212> TYPE: DNA
 197 <213> ORGANISM: Artificial Sequence
 199 <220> FEATURE:
 200 <223> OTHER INFORMATION: Pv-FRIL.
 203 <400> SEQUENCE: 5
 204 gtcagtcat tatctttaa ctttaccaag tttgatctt accaaaaaaga tcttatcttc 60
 206 caagggtatg ccacttctac aaacaatgtc ttacaactca ctaagttaga cagtgaggaa 120
 208 aaccctgtgg gtgctagtgt gggaaagagt ttattctctg caccattca tctttggaa 180
 210 aactctatgg cagtgtaag ctttgaact aatctcacca ttcaaatctc aacacctcac 240
 212 ctttattatg cagctgatgg ctttgccttc ttccctgcac cacatgacac tgtcatccct 300
 214 ccaattctt gggcaattt ctttggactc tactcaaacg ttttcagaaa ctccccccacc 360
 216 tctaaaaacc aaagcttgg tgatgtcaat actgactcaa gagttgtgc tgtcgaattt 420
 218 gacaccttc ctaatgccaa tattgtatcca aattacagac acattggaaat cgatgtgaac 480
 220 tctattaaatg ccaaggaaac tgcttagtgg gatggcaaa atggaaaac ggcactgca 540
 222 cgcattcactataactctgc ctctaaaaaa tcaactgtta ctacgtttt tcctggatg 600
 224 gaagttgtgg ctctctccca tgatgttgc ttacatgcag agttcctga atgggttaga 660
 226 gtagggttat ctgcttcaac tggagaggag aaacaaaaaa ataccattat ctcatggtct 720
 228 ttcaattcaa gcttgaagaa caacgagggtg aaggagccga aagaagacat gtatattgca 780
 230 aacgttgc gatcatatac atggatcaat gacgttctat cttatataag caataaataa 840
 232 atgtatgtatg cactcaataa taatcacaag tacgtacggt gtatgtatg tatgttgttt 900
 234 atgaaaaaaaaaaaa 914
 238 <210> SEQ ID NO: 6
 239 <211> LENGTH: 303
 240 <212> TYPE: PRT
 241 <213> ORGANISM: Artificial Sequence
 243 <220> FEATURE:
 244 <223> OTHER INFORMATION: Pv-FRIL.

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247 <400> SEQUENCE: 6
 249 Ala Gln Ser Leu Ser Phe Asn Phe Thr Lys Phe Asp Leu Asp Gln Lys
 250 1 5 10 15
 252 Asp Leu Ile Phe Gln Gly Asp Ala Thr Ser Thr Asn Asn Val Leu Gln
 253 20 25 30
 255 Leu Thr Lys Leu Asp Ser Gly Gly Asn Pro Val Gly Ala Ser Val Gly
 256 35 40 45
 258 Arg Val Leu Phe Ser Ala Pro Phe His Leu Trp Glu Asn Ser Met Ala
 259 50 55 60
 261 Val Ser Ser Phe Glu Thr Asn Leu Thr Ile Gln Ile Ser Thr Pro His
 262 65 70 75 80
 264 Pro Tyr Tyr Ala Ala Asp Gly Phe Ala Phe Phe Leu Ala Pro His Asp
 265 85 90 95
 267 Thr Val Ile Pro Pro Asn Ser Trp Gly Lys Phe Leu Gly Leu Tyr Ser
 268 100 105 110
 270 Asn Val Phe Arg Asn Ser Pro Thr Ser Glu Asn Gln Ser Phe Gly Asp
 271 115 120 125
 273 Val Asn Thr Asp Ser Arg Val Val Ala Val Glu Phe Asp Thr Phe Pro
 274 130 135 140
 276 Asn Ala Asn Ile Asp Pro Asn Tyr Arg His Ile Gly Ile Asp Val Asn
 277 145 150 155 160
 279 Ser Ile Lys Ser Lys Glu Thr Ala Arg Trp Glu Trp Gln Asn Gly Lys
 280 165 170 175
 282 Thr Ala Thr Ala Arg Ile Ser Tyr Asn Ser Ala Ser Lys Lys Ser Thr
 283 180 185 190
 285 Val Thr Thr Phe Tyr Pro Gly Met Glu Val Val Ala Leu Ser His Asp
 286 195 200 205
 288 Val Asp Leu His Ala Glu Leu Pro Glu Trp Val Arg Val Gly Leu Ser
 289 210 215 220
 291 Ala Ser Thr Gly Glu Glu Lys Gln Lys Asn Thr Ile Ile Ser Trp Ser
 292 225 230 235 240
 294 Phe Thr Ser Ser Leu Lys Asn Asn Glu Val Lys Glu Pro Lys Glu Asp
 295 245 250 255
 297 Met Tyr Ile Ala Asn Val Val Arg Ser Tyr Thr Trp Ile Asn Asp Val
 298 260 265 270
 300 Leu Ser Tyr Ile Ser Asn Lys Met Tyr Asp Ala Leu Asn Asn Asn His
 301 275 280 285
 303 Lys Tyr Val Arg Cys Ser Thr Cys Met Leu Phe Met Lys Lys Lys
 304 290 295 300
 307 <210> SEQ ID NO: 7
 308 <211> LENGTH: 678
 309 <212> TYPE: DNA
 310 <213> ORGANISM: Artificial Sequence
 312 <220> FEATURE:
 313 <223> OTHER INFORMATION: YamFril partial mRNA sequence.
 316 <400> SEQUENCE: 7
 317 acgaagttcg acagcgacca aaaggatctt atgttccaag gtcataccat ttcttagcagc 60
 319 aatgtcatac aactcaccaa gttagacagt aatggaaacc ctgtgagttac cagtgtggga 120
 321 agagtgttat actctgcacc attgcgcctt tgggaaagct ctacagtagt gtcaaccctt 180

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323 gagaccacctt tcacccttca aatctcaaca cttacacta gtcctcctgg tggatgggctc 240
 325 gccttcttcc ttgacaccata tgacactgtc atccctccaa attctgtgg caatcttctt 300
 327 ggactcttcc ctaacttaaa tgctttaaga aactccacca ccagtaaaga aaccactatt 360
 329 gatgtcaatg ctgcacatcaa caacgttgg gccgttgaat ttgacacacta ccctaacgac 420
 331 aatattgtg atccaagata caaacacatt ggaatcgatg tcaactctat caggtccaag 480
 333 gcaactgtt cgtgggactg gcaaaaatggg aaaacagcca ctgcacacat cagctataac 540
 335 tctgcctcta aaagactatc tgttactact ttttacatctg gggtaaaggc tgtgagtctt 600
 337 tcccatgacg tttagctac tcaagtgtt cctcaatggg ttagagtagg gttctctgct 660
 339 tcaacaggat tagagaaa 678
 343 <210> SEQ ID NO: 8
 344 <211> LENGTH: 234
 345 <212> TYPE: PRT
 346 <213> ORGANISM: Artificial Sequence
 348 <220> FEATURE:
 349 <223> OTHER INFORMATION: YamFril deduced amino acid sequence.
 352 <400> SEQUENCE: 8
 354 Ala Gln Ser Val Ser Phe Thr Phe Thr Lys Phe Asp Ser Asp Gln Lys
 355 1 5 10 15
 357 Asp Leu Met Phe Gln Gly His Thr Ile Ser Ser Ser Asn Val Ile Gln
 358 20 25 30
 360 Leu Thr Lys Leu Asp Ser Asn Gly Asn Pro Val Ser Thr Ser Val Gly
 361 35 40 45
 363 Arg Val Leu Tyr Ser Ala Pro Leu Arg Leu Trp Glu Ser Ser Thr Val
 364 50 55 60
 366 Val Ser Thr Phe Glu Thr Thr Phe Thr Phe Gln Ile Ser Thr Pro Tyr
 367 65 70 75 80
 369 Thr Ser Pro Pro Gly Asp Gly Leu Ala Phe Phe Leu Ala Pro Tyr Asp
 370 85 90 95
 372 Thr Val Ile Pro Pro Asn Ser Ala Gly Asn Leu Leu Gly Leu Phe Pro
 373 100 105 110
 375 Asn Leu Asn Ala Leu Arg Asn Ser Thr Thr Ser Lys Glu Thr Thr Ile
 376 115 120 125
 378 Asp Val Asn Ala Ala Ser Asn Asn Val Val Ala Val Glu Phe Asp Thr
 379 130 135 140
 381 Tyr Pro Asn Asp Asn Ile Gly Asp Pro Tyr Arg Lys His Ile Gly Ile
 382 145 150 155 160
 384 Asp Val Asn Ser Ile Arg Ser Lys Ala Thr Val Ala Trp Asp Trp Gln
 385 165 170 175
 387 Asn Gly Lys Thr Ala Thr Ala His Ile Ser Tyr Asn Ser Ala Ser Lys
 388 180 185 190
 390 Arg Leu Ser Val Thr Thr Phe Tyr Pro Gly Gly Lys Ala Val Ser Leu
 391 195 200 205
 393 Ser His Asp Val Glu Leu Thr Gln Val Leu Pro Gln Trp Ile Arg Val
 394 210 215 220
 396 Gly Phe Ser Ala Ser Thr Gly Leu Glu Lys
 397 225 230
 400 <210> SEQ ID NO: 9
 401 <211> LENGTH: 15
 402 <212> TYPE: PRT

RAW SEQUENCE LISTING ERROR SUMMARY
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:10; Xaa Pos. 14
Seq#:11; N Pos. 3,6,9,12,15,18,21
Seq#:12; N Pos. 3,6,9,15
Seq#:16; N Pos. 3,6,9,12,15
Seq#:24; Xaa Pos. 7
Seq#:31; Xaa Pos. 7
Seq#:32; Xaa Pos. 7
Seq#:33; Xaa Pos. 12
Seq#:34; Xaa Pos. 7
Seq#:36; N Pos. 18

VERIFICATION SUMMARY

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L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:433 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0
L:462 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0
L:491 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0
L:556 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0
L:762 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:0
L:865 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:0
L:885 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:0
L:905 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:0
L:925 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:0
L:959 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:0
L:1121 M:283 W: Missing Blank Line separator, <220> field identifier